

IN THE CLAIMS:

Claims 1-48 (canceled).

Claim 49 (currently amended): A biaxially-oriented shrink film for wrapping foodstuffs, comprising a plurality of the overlaid layers making up 100% of a thickness of the film, the film having a neutral plane and, starting from a layer that, in use, is in contact with foodstuffs, the film comprises:

a welding layer A having a thickness of 10% to 30% and constituting an internal layer of the film for wrapping foodstuffs, said welding layer A being selected from the group consisting of: an ionomer containing zinc; an ionomer containing sodium; a low-density polyethylene; a linear low-density polyethylene; an ethylene plastomer; and an octene plastomer;

a first adhesive layer B having a thickness of 5% to 15% and comprising an adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer;

a first barrier layer C for acting as a barrier to aqueous steam, the first barrier layer C having a thickness of 10% to 20% and comprising a polyamide polymer selected from the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; and a mixture thereof with addition of a terionomer;

a second adhesive layer D having a thickness of 10% to 20% and comprising an adhesive polymer selected from the group consisting of: terionomers; a copolymer of ethylene modified with maleic anhydride; and EVA/ethylene methacrylic acid copolymer;

a second barrier layer E having a thickness of 10% to 20% and comprising a

polyamide polymer selected from ~~selected from~~ the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; a mixture thereof with the addition of terionomers; PVA; PGA; and PVG;

a third adhesive layer F having a thickness of 5% to 15% and comprising [[a]] ~~an~~ adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer; and

a third outer barrier layer G acting as a barrier to aqueous steam and having a thickness of 5% to 25%, the third barrier layer G ~~comprising~~ consisting of a polyamide polymer selected from the group consisting of: PA 6 and PA 6/66;

said layers A to G making up 100% of the thickness of the film;

wherein three layers of the film comprise polymers having a Young's modulus that is higher than that of the polymers comprising the other layers, one of said three layers with a higher Young's modulus being said outer layer of the film, and the other layers with a higher Young's modulus are other, inner layers of the film;

wherein each of said three layers with a higher Young's modulus is separated from the other layers with a higher Young's modulus by at least one layer with a lower Young's modulus;

wherein said three layers with a higher Young's modulus are impermeable to gases; and

wherein said other layers with a higher Young's modulus which are the other inner layers of the film, are located on the opposite side, in relation to a neutral plane of the film, from the layer with a higher Young's modulus which lies on the outside of the film; and

wherein said polyamide polymers have yield points greater than 25 MPa and elastic

moduli greater than 3500 MPa.

Claim 50 (canceled).

Claim 51 (previously presented): The film as claimed in claim 49, wherein the sequence of all the layers comprising said film, and their thickness, from which the distance of each of said layers from the neutral plane of said film derives, are determined in such a way that a sum of moments exerted by said layers in relation to said neutral plane after the process of biaxial orientation is nil:

wherein the moment exerted by a single layer in relation to the neutral plane is equal to the product of the membrane force exerted by said layer and the distance of an average plane of said third adhesive layer from the neutral plane of the film; and

wherein the membrane force exerted by said layer is equal to the product of the Young's modulus of the material which comprises said layer, the thickness of said layer and the prevented shrinkage, expressed as a percentage.

Claim 52 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a polyamide polymer PA6/66; said second adhesive layer D comprises a terionomer; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises a terionomer; said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 53 (currently amended): The film as claimed in claim 49, wherein: said welding layer A comprises of an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a mixture of polyamides PA 6/66 and aliphatic PA; said second adhesive layer D comprises a terionomer; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises a terionomer; said third barrier layer G comprising consisting of PA 6/66.

Claim 54 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a mixture of polyamides PA6/66 and amorphous PA that is blended with a terionomer; said second adhesive layer D comprises a terionomer; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises a terionomer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 55 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a polyamide PA 6/66; said second adhesive layer D comprises a terionomer; said second barrier layer E comprises a mixture of polyamides PA 6/66 and amorphous PA; said third adhesive layer F comprises a terionomer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 56 (currently amended): The film as claimed in claim 49, wherein said welding

layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a polyamide PA 6/66; said second adhesive layer D comprises a terionomer; said second barrier layer E comprises a mixture of polyamides PA 6/66 and amorphous PA that is blended with a terionomer; said third adhesive layer F comprises a terionomer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 57 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises polyamide PA 6/66; said second adhesive layer D comprises of a terionomer; said second barrier layer E comprises an aliphatic PA polymer; said third adhesive layer F comprises a terionomer; and said third barrier layer G comprising consisting of polyamide polymer PA 6/66.

Claim 58 (currently amended): A biaxially-oriented shrink film for wrapping foodstuffs, comprising a plurality [[fo]] of the overlaid layers making up 100% of a thickness of the film, the film having a neutral plane and, starting from a layer that, in use, is in contact with foodstuffs, the film comprises:

a welding layer A having a thickness of 10% to 30% and constituting an internal layer of the film for wrapping foodstuffs, said welding layer A being selected from the group consisting of: an ionomer containing zinc; an ionomer containing sodium; a low-density polyethylene; a linear low-density polyethylene; an ethylene plastomer; and an octene plastomer;

a first adhesive layer B having a thickness of 5% to 15% and comprising an

adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer;

a first barrier layer C for acting as a barrier to aqueous steam, the first barrier layer C having a thickness of 10% to 20% and comprising a polyamide polymer selected from the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; and a mixture thereof with addition of a terionomer;

a second adhesive layer D having a thickness of 10% to 20% and comprising an adhesive polymer selected from the group consisting of: terionomers; a copolymer of ethylene modified with maleic anhydride; and EVA/ethylene methacrylic acid copolymer;

a second barrier layer E having a thickness of 10% to 20% and comprising a polyamide polymer selected from ~~selected from~~ the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; a mixture thereof with the addition of terionomers; PVA; PGA; and PVG;

a third adhesive layer F having a thickness of 5% to 15% and comprising [[a]] an adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer; and

a third outer barrier layer G acting as a barrier to aqueous steam and having a thickness of 5% to 25%, the third barrier layer G comprising consisting of a polyamide polymer selected from the group consisting of: PA 6 and PA 6/66;

said layers A to G making up 100% of the thickness of the film:

wherein three layers of the film comprise polymers having a Young's modulus that is higher than that of the polymers comprising the other layers, one of said three layers with a higher Young's modulus being the outer layer of the film, and the other layers with a

higher Young's modulus are other, inner layers of the film;

wherein each of said three layers with a higher Young's modulus is separated from the other layers with a higher Young's modulus by at least one layer with a lower Young's modulus;

wherein said three layers with a higher Young's modulus are impermeable to gases;

wherein said two layers with a higher Young's modulus which are the other inner layers of the film, are located on the opposite side, in relation to a neutral plane of the film, from the layer with a higher Young's modulus which lies on the outside of the film; and

wherein said welding layer A comprises an ethylene or octene plastomer; said first adhesive layer B comprises LLDPE modified with maleic anhydride; said first barrier layer C comprises a mixture of polyamides PA 6/66 and amorphous PA; said second adhesive layer D comprises LLDPE modified with maleic anhydride; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises LLDPE modified with maleic anhydride; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66; and

wherein said polyamide polymers have yield points greater than 25 MPa and elastic moduli greater than 3500 MPa.

Claim 59 (currently amended): A biaxially-oriented shrink film for wrapping foodstuffs, comprising a plurality [[fo]] of the overlaid layers making up 100% of a thickness of the film, the film having a neutral plane and, starting from a layer that, in use, is in contact with foodstuffs, the film comprises:

a welding layer A having a thickness of 10% to 30% and constituting an internal layer of the film for wrapping foodstuffs, said welding layer A being selected from the group

consisting of: an ionomer containing zinc; an ionomer containing sodium; a low-density polyethylene; a linear low-density polyethylene; an ethylene plastomer; and an octene plastomer;

a first adhesive layer B having a thickness of 5% to 15% and comprising an adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer;

a first barrier layer C for acting as a barrier to aqueous steam, the first barrier layer C having a thickness of 10% to 20% and comprising a polyamide polymer selected from the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; and a mixture thereof with addition of a terionomer;

a second adhesive layer D having a thickness of 10% to 20% and comprising an adhesive polymer selected from the group consisting of: terionomers; a copolymer of ethylene modified with maleic anhydride; and EVA/ethylene methacrylic acid copolymer;

a second barrier layer E having a thickness of 10% to 20% and comprising a polyamide polymer selected from ~~selected from~~ the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; a mixture thereof with the addition of terionomers; PVA; PGA; and PVG;

a third adhesive layer F having a thickness of 5% to 15% and comprising [[a]] an adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer; and

a third outer barrier layer G acting as a barrier to aqueous steam and having a thickness of 5% to 25%, the third barrier layer G comprising consisting of a polyamide polymer selected from the group consisting of: PA 6 and PA 6/66;

said layers A to G making up 100% of the thickness of the film;

wherein three layers of the film comprise polymers having a Young's modulus that is higher than that of the polymers comprising the other layers, one of said three layers with a higher Young's modulus being the outer layer of the film, and the other layers with a higher Young's modulus are other, inner layers of the film;

wherein each of said three layers with a higher Young's modulus is separated from the other layers with a higher Young's modulus by at least one layer with a lower Young's modulus;

wherein said three layers with a higher Young's modulus are impermeable to gases;

wherein said two layers with a higher Young's modulus which are the other inner layers of the film, are located on the opposite side, in relation to a neutral plane of the film, from the layer with a higher Young's modulus which lies on the outside of the film; and

wherein said welding layer A comprises LLDPE; said first adhesive layer B LLDPE comprises modified with maleic anhydride; said first barrier layer C comprises a mixture of polyamides PA 6/66 and amorphous PA; said second adhesive layer D comprises LLOPE modified with maleic anhydride; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises ~~LLOPE~~ LLDPE modified with maleic anhydride; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66; and

wherein said polyamide polymers have yield points greater than 25 MPa and elastic moduli greater than 3500 MPa.

Claim 60 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises ~~EOP~~ LDPE; said first adhesive layer B comprises an EVA/ethylene

methacrylic acid copolymer; said first barrier layer C comprises a mixture of polyamides PA 6/66 and PA 6; said second adhesive layer D comprises an EVA/ethylene methacrylic acid copolymer; said second barrier layer E comprises a polyamide polymer PA 6/66; said third adhesive layer F comprises an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 61 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises ionomers containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a polyamide PA 6/66; said second adhesive layer D comprises an EVA/ethylene methacrylic acid copolymer; said second barrier layer E comprises PVA; said third adhesive layer F comprises an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 62 (currently amended): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises polyamide PA 6/66 PA 6/66; said second adhesive layer D comprises an EVA/ethylene methacrylic acid copolymer; said second barrier layer E comprises PGA; said third adhesive layer F comprises an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprising consisting of a polyamide polymer PA 6/66.

Claim 63 (currently amended): The film as claimed in claim 49, wherein:
said welding layer A has a thickness of 20% and comprises an ionomer containing

zinc or sodium, a low-density polyethylene or linear low-density polyethylene, or an ethylene or octene plastomer;

said first adhesive layer B has a thickness of 10% and comprises an adhesive polymer selected from the group consisting of: terionomers modified with maleic anhydride, and EVA/ethylene methacrylic acid copolymer;

said first barrier layer C has a thickness of 15% and comprises a polyamide polymer selected from the group consisting of PA 6, PA 6/66, amorphous PA, aliphatic PA, and a mixture thereof, possibly with the addition of terionomers;

said second adhesive layer D has a thickness of 15% and comprises an adhesive polymer selected from the group consisting of terionomers, a copolymers copolymer of ethylene modified with maleic anhydride and EVA/ethylene methacrylic acid copolymer, and which

is the same as or different from said first adhesive layer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer selected from the group consisting of PA 6, PA6/66, amorphous PA, aliphatic PA and a mixture thereof, possibly with the addition of terionomers, and which is the same as or different from said first barrier layer; and

said third adhesive layer F has a thickness of 10% and comprises an adhesive polymer selected from the group consisting of terionomers, copolymers of ethylene modified with maleic anhydride, and EVA/ethylene methacrylic acid copolymer, and which is the same as or different from said layers B and D; and said third barrier layer G has a thickness of 15% and comprises consists of polyamide PA 6 or PA 6/66.

Claim 64 (currently amended): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a polyamide PA 6/66;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and ~~comprises~~ consists of a polyamide polymer PA 6/66.

Claim 65 (currently amended): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a mixture of polyamides PA 6/66 and aliphatic PA;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and ~~comprises~~ consists of a polyamide polymer PA 6/66.

Claim 66 (currently amended): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a mixture of polyamides PA 6/66 and amorphous PA that is blended with a terionomer;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and ~~comprises~~ consists of a polyamide polymer PA 6/66.

Claim 67 (currently amended): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises polyamide polymer PA6/66;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a mixture of polyamides PA 6/66 and amorphous PA;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and ~~comprises~~ consists of a

polyamide polymer PA 6/66.